



# THE COLD HARVESTER

## NEWFOUNDLAND AQUACULTURE

SUMMER 2024

# Aquaculture UK

**Member  
Profile:  
MAMKA**

**Remembering  
Industry Pioneer  
A. Job Halfyard**



# 29<sup>TH</sup> ANNUAL CONFERENCE AND TRADE SHOW

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**October 8-10, 2024**

On behalf of the Newfoundland and Labrador aquaculture industry, we invite you to join us for our 29th Annual Cold Harvest Conference and Trade Show.

Cold Harvest is a premier Canadian aquaculture conference, focused on promoting and developing the business of aquaculture for the prosperity of our sector and our communities. It brings farm management and service sector professionals together to build their knowledge and foster new business connections. The conference offers exciting and informative discussions related to aquaculture and its potential in our province. With world class keynote speakers and guests, and themed sessions related to aquaculture innovation, technology, science and service sector advancements, this event should not be missed.

## KEYNOTE SPEAKER ANNOUNCEMENT



Dr. George Chamberlain started his career as a researcher, instructor, and Extension Aquaculture Specialist at Texas A&M University. He went on to direct aquaculture programs at Ralston Purina International and Monsanto. He founded and managed several shrimp breeding, nutrition, and farming companies operating in Malaysia, Brunei, and Hawaii. Chamberlain served as a Board member and President of the World Aquaculture Society and later helped found both the Global Seafood Alliance (GSA) and The Center for Responsible Seafood (TCRS). He served for 25 years as President of GSA and now leads TCRS.



Visit [www.coldharvest.ca](http://www.coldharvest.ca) to learn more.



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Cover Photo: Rachel Artuso of Marine Institute/Holdfast NL (front cover) was part of a group visit to view the cultures collection at the Scottish Association for Marine Science (SAMS) in Oban, Scotland during Aquaculture UK in May 2024.

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Message from Interim President and Chair of the Board

**Jonathan Gagné**

## *Dedication, commitment keys to seafood farming future*

**D**edication is defined as “being committed to a task or purpose.”

Reflecting on my time within the global aquaculture industry, dedication is a word that often comes to mind when thinking about our people and our sector. Aquaculture isn’t greater than the sum of its parts, but rather has *become* great due to the strength of its smallest parts and most important resource, the dedicated people restlessly and tirelessly driving it forward. Without the efforts and commitment of an incredible number of people, past, present, and future, our entire sector would certainly be less than it currently is.

The Newfoundland and Labrador aquaculture industry stands on the shoulders of the dedicated growers that came before and paved the way forward for all of us today. It came with decades of effort and struggle in the belief of a sector that could one day provide incredible benefit to the province and its people. A belief that was held by our growers through hardships and trials, year after year.

A life’s worth of dedication that we were all recently reminded of with the passing of our beloved Job Halfyard, a true seafood farming pioneer. His memory should inspire us all to strive for a better industry and to labor more than ever in this vital task.

I truly believe that today’s Newfoundland and Labrador aquaculture sector is poised for greatness, however we must all work together to see this through. Only the belief and dedication of all of us can lead us to the achievement of such lofty goals. We all know that the challenge is significant, however great things come from hard work, and perseverance. Newfoundlanders

have these qualities in abundance, hence my steadfast belief in our industry and its future.

Recently, the Food and Agriculture Organization of the UN (FAO) announced that data from 2022 signaled the very first-time aquaculture has surpassed the traditional fisheries in terms of production on a global scale. This is a significant moment for the industry as a whole, and it demonstrates a future that many had foreseen coming. I believe that the time has come for Newfoundland and Labrador to become a world leader in what will be the future of the seafood industry, offering high quality and sustainable products, for the global market, from both the wild fisheries and aquaculture industries for decades to come.

On that note, I look forward to our Cold Harvest Conference and Tradeshow in St John’s, October 8-10, and to continuing our collective efforts in reaching our common goals and aspirations.

I thank all stakeholders within our industry for everything achieved to date, and I challenge all these same stakeholders (growers, government, suppliers, distributors, etc.) to continue working together to develop an aquaculture industry on par and complementary with Newfoundland and Labrador’s sterling reputation for quality seafood products.

I challenge everyone to remember the giant shoulders from the past that we stand on, all the while, dedicating ourselves to the dream of the future industry – a future we all know is feasible and necessary.

From your very dedicated interim president.

Jonathan Gagné



Message from Executive Director

## Jamie Baker

**A**n old Newfoundland saying that often rings true is the suggestion that, “Change is as good as a rest.”

My interpretation of that is simply that change is good, change is natural, and change is critical if anything or anyone will succeed.

The seafood farming sector in NL is currently seeing some fairly notable change on a few fronts, as many of us already know.

One change comes in the form of new species and possibilities. Our traditional headliners, salmon, trout, and mussels are making room for some new players: Oysters, which have already achieved incredible commercial level development, along with new potential for wolffish, cleanerfish, and most recently marine plants.

As a side note, on a recent visit to Aquaculture UK in Aviemore, Scotland, our folks got an up-close look at how seaweed development can be an amazing piece of the marine farming equation here in NL. Learning from the Scottish effort over the past number of years, there are opportunities and lessons learned that will hopefully serve NL well in moving that file forward.

Another change the NL sector is seeing is in the people who are forging the future. Some folks – folks who have spearheaded the growth and development of the sector in recent years – have changed roles or changed companies, while others are moving into new positions. Many of them will continue to be a force in the sector for years to come.

At the same time, we are seeing some new people step in and step up to the plate bringing new blood, new ideas and new dedication to growing the sector. We are seeing young people advancing in their careers and setting the stage for a lifetime contribution to rural NL through farming and service/supply.

Even around NAIA's board table there are some fresh faces, including a new interim president, who will no doubt bring some great energy and fresh perspectives to the organization as we continue to strive for continued sustainable growth and development.

We are seeing changes also on the water in farming practices and innovative ideas. We are seeing the development of exciting new technology and support off the farm.

It's an exciting time to be part of the sector, and with the collection of incredible people we see in leadership positions throughout all facets of farming, combined with the many advances and new species potential, the future does indeed look bright.

A change may indeed be as good as a rest. And that's quite fitting, because from what I can see, nobody in the sector is interested in resting.

### A True Pioneer

While the passing of Job Halfyard is a moment of sadness for all who knew him, it is also an important moment of reflection and tribute.

As a dedicated father and husband, a community supporter, and an educator of the highest renown in outport Newfoundland, Job achieved personal and professional goals that would make for a remarkable epitaph just on their own for anyone. But he was not satisfied to rest on the laurels of what he had accomplished, and envisioned he could do even more for rural NL after he retired in 1987.

The vision he had: Mussel farming.

In 1988 he began his journey in the seafood sector, a dedication that intensified when he saw the pain and fallout from the 1992 cod moratorium that shook NL to its core. He viewed marine farming as a way to provide much-needed employment, to provide hope for rural communities, and to provide healthy and delicious seafood in a way that was new and exciting.

And oh boy, did he deliver. From 1988 to 2018 he pioneered a sector that today, between finfish and shellfish, is currently worth a quarter billion dollars in value annually (with more to come). Like most of his life and career, he did it without much fanfare, but with incredible dedication. He did what was – and is – always needed: He made life better for many in rural communities.

**CONTINUED ON PAGE 6**



Off the farm, Job ended up servicing on the NAIA Board of Directors in some key capacities, including the role of President. He was recognized as the province's "Aquaculturist of the Year" in 2005 and received a lifetime achievement award in 2021.

Job's generation were made of different "stuff." As his daughter Sharon wrote so eloquently in a dissertation at Memorial University in April 2019: "They learned to become 'actors' and 'change agents' in a traditional institutional system that shaped their lives, their culture. They joined modern organizations. They became part of movements in their quest for a more just, equitable, and humane society. They encouraged experimentation and new ways of looking at the world. They became leaders who mentored and taught others. But Halfyard lived his goals and vision in one small corner of the province of Newfoundland and Labrador (NL) as an ordinary, obscure, and unsung foot soldier who had the 'call to serve' reflective of so many others of his generation."

NAIA and its members extend sincerest condolences to

Audrey, Job's wife of 70 years, his children Laura Halfyard, Sharon Halfyard (Tony White), Job Halfyard Jr (Judy), Viola Rice (Carl), Joann Clausen (Bob), Deborah Kent (Derek), Annete Walsh (Joe) and a very wide circle of grandchildren, great-grandchildren, relatives and friends.

### **Cold Harvest 2024**

The stage is officially set for Cold Harvest 2024 at the Sheraton Hotel in St. John's, Oct. 8-10, 2024.

Registrations are now open online for exhibitors and attendees, so get in the mix early for what promises to be a wonderful event showcasing all the benefits and potential for seafood farming in NL.

The show program is coming together quickly and will feature high-quality speakers and sessions, and the social pieces of the program – including our marquee event, the 2024 Farmed Seafood Soirée – will be a chance to experience the world-class food, culture and music of our province and sector.

We look forward to seeing you all in October!



# NAIA Board of Directors and Staff at Aquaculture UK in Scotland

**J**amie Baker, NAIA Executive Director, along with Cathy Follett and Danny Boyce, NAIA Board Members, visited Scotland in May with a group of delegates on a mission led by Oceans Advance. The Aquaculture UK event was held in Aviemore, Scotland, and NAIA was a part of the Canadian Pavillion. They also took part in various site tours and networking events during the week. One of the priorities of the mission was to seek out marine plants advancements to help develop the sector in Newfoundland and Labrador.



L to R: Jamie Baker, NAIA Executive Director, Cathy Follett, AMAR Canada and Danny Boyce, Ocean Sciences Centre - JBARB.

## Welcome NAIA Summer Students 2024

**T**his year, NAIA received funding to hire three summer students through Canada Summer Jobs, Qalipu First Nation, and Department of Immigration Population Growth and Skills. They will be working from the NAIA satellite office in St. Alban's.

Kennedy Willcott is a returning NAIA summer student and volunteer who is currently completing her Bachelor of Arts in Drama at University of Alberta. She is the Project Manager, whose main tasks are to plan shoreline clean ups and youth activities for the summer and help with Cold Harvest 2024 planning.

Janessa Davis is heading into her second year of her Bachelor of Science at Memorial University of Newfoundland majoring in Biology. Alexandra Mackey is a high school graduate who will be attending College of the North Atlantic in the fall to complete the Hydrogen Technician program. Their roles will be to assist with the annual shoreline clean-ups and marine debris awareness related events throughout the summer.

This team of three is very excited to get outside and work with our partners and communities and look forward to having a great summer working with NAIA. Welcome aboard!







## YMCA Exchange Students from Newfoundland and Labrador and Québec Participate in World Ocean Day Activities in the Province

**T**wenty-two students and two chaperones from Prince of Wales Collegiate (PWC), Newfoundland, travelled to Québec City for six days in the spring and stayed with students and their families as a part of the YMCA Youth Exchanges Canada Program. After a very busy six days of site seeing and activities, the same twenty-two students from Québec High School (QHS) and two chaperones travelled to Newfoundland and stayed with families

for six days. During their time on the island they participated in many different events, including a visit to the Geo Centre and Signal Hill, and got to enjoy a traditional NL Jiggs Dinner. In their schedule, they also included a World Oceans Day shoreline clean up at St. Phillips Beach which was followed by a nice campfire and live entertainment. Grace Kelly, Miss Teen Achievement, also participated in the event and lent a hand picking up debris.

At YMCA Youth Exchanges Canada, their goal is to give youth groups the opportunity to learn more about other communities across Canada. In the process, participants learn new skills, develop a stronger sense of community, and get a chance to experience Canada's diversity firsthand. Learn more at <https://www.ymca.ca/what-we-offer/youth-engagement>



Grace Kelly, Miss Teen Achievement



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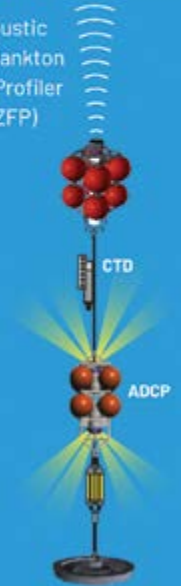
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# Exploring Mitigation Measures for Vase Tunicate in Burgeo, NL

On November 19, 2023, ACAP Humber Arm documented invasive vase tunicate (*Ciona intestinalis*) in Burgeo, Newfoundland and Labrador, an aquatic invasive species first documented in the province in 2012 (Sargent et al., 2013). Vase tunicates are characterised by a translucent cylindrical body that appears green, yellow, or orange, growing up to 6 inches in length (Fisheries and Oceans Canada, 2019). As a stationary and opportunistic filter feeder, vase thrives on frequently disturbed man-made structures, such as wharves and aquaculture gear (Carver et al., 2006). Where present, vase can outcompete native species and add significant weight to these structures, increasing operation costs and affecting equipment functionality (Carver et al., 2006).

A range of mitigation tools exist to reduce the spread of this biofouling ascidian (Fisheries and Oceans Canada, 2019; Lovejoy, 2023). While such tools are ecologically effective,

implementation is affected by how well a given mitigation measure fits the social and economic context. In Burgeo, NL, there are strong ties to a fishing-based economy and boating culture (Burgeo Harbour Authority representative, personal communication, January 24, 2024). Discussion was held with Burgeo stakeholders, governmental representatives, and industry association stakeholders to gauge awareness, give an overview of the issue, and discuss mitigation measures, as needed. Where antifouling paint, manual removal of infrastructure, and drydocking of boats were the main mitigation measures discussed, antifouling paint was observed as least cumbersome by locals, is readily available, and already widely used. Additionally, the latter tools lead to more rapid subsequent biofouling (Carver et al., 2006).

It is also clear that mitigation through antifouling paint should be approached as a voluntary measure in Burgeo. At the federal level, regulators and

enforcement officers may treat vase and prohibit its introduction where it is not native but may not enforce the use of antifouling paint under AIS regulations (*Aquatic Invasive Species Regulations*, 2015). At the local level, volunteer burnout is identified as a barrier to community-based enforcement. Consequently, participants strongly agree that knowledge dissemination can create an emotional and value-laden involvement in the issue to improve voluntary compliance, especially since existing knowledge of vase tunicate is currently low.

With the potential for vase tunicate to continue to spread across the province's coastline, the economic, ecological, and sociocultural impacts can worsen (Therriault & Herborg, 2008). With that said, approaches that involve all relevant stakeholders and industry representatives may help improve implementation of mitigation measures, as alluded to here.

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**W**orld Ocean's Day is a worldwide celebration where people all over the globe promote the creation of a better future with a healthy ocean and stable climate. This year's theme for World Oceans Day is Catalyzing Action for Our Ocean & Climate. It's important to celebrate World Ocean's Day to help keep our oceans abundant and clean, helping our planet flourish.

## World Oceans Day Scavenger Hunt

**A**s a part of these celebrations, NAIA held a province-wide scavenger hunt for youth 12 and under. Submissions came from all over Newfoundland and Labrador, with many youth, families, and schools doing their part removing marine

debris from our beaches in a fun manner. One-hundred and fifty-three submissions from twelve different communities were received overall. The lucky winner of the contest was Carter Organ. Congratulations Carter!



Lili Etchegary - Spanish Room, NL.



Jasper Byrne - Holyrood Beach, NL.



Grade 5 Class - English Harbour West, NL.



Kadence and Harmony LeGrow - Rencontre East, NL.



Rankin Pearce, Elliston NL.



Carter Organ, winner of the Province wide scavenger hunt with Kennedy Willcott, NAIA Summer Student.



Maggie Murphy and friends - South East Bight, NL.



K-6 Students from Jackman All Grade - Trout River, NL.



# DAY ACROSS THE PROVINCE

## Conrad Fitzgerald Academy in English Harbour West

**N**AIA staff Roberta Collier and Kennedy Willcott travelled to Conrad Fitzgerald Academy in English Harbour West, NL, on May 27th as a part

of the World Ocean's Day celebrations. They spent time on the beach with 18 students from grades 4 and 6 and participated in the scavenger hunt where

they collected marine debris items from the list. Afterwards, they did a presentation on marine debris.



## St. Anne's School in Conne River

**O**n June 4th, NAIA staff and MAMKA staff Randy Green and Elizabeth Barlow, did book reads with thirty students in grades K – 2 at St. Anne's School

in Conne River, NL. The students were all very interested in the book "Charley, A Day in the Bay," and asked many great questions. They also shared what they

knew about marine debris, and they were eager to learn more about new ways they could help.





## Bay d'Espoir Academy K-6 Beach Clean Up

On June 5th, NAIA staff enjoyed a beach cleanup with forty-five students and their teachers from grades K-6 of Bay d'Espoir Academy. The kids were very happy to remove

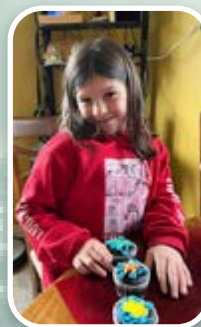
marine debris from the beach and were proud of themselves for doing their part in keeping our oceans clean.



## Annual Clover Farm Cup Cake Contest

The annual cupcake decorating contest at Clover Farm St. Alban's also took place leading up to World Ocean's Week. Youth from Bay d'Espoir and nearby communities decorated cupcakes using their World Oceans Day themed kits, making wonderful designs while also learning about the significance of our ocean's health and why we should keep our oceans

free of marine debris. In total, there were forty-three entries into this contest. Special thanks to Clover Farm St. Alban's for organizing the event again this year and thank you to everyone who submitted their cupcake designs! Congratulations to the NAIA gift card winner, Kaidance Anstey!



The winner of the cupcake contest was Kaidance Anstey who was visiting family in St. Alban's and entered the contest.





## NAIA Staff Visits Daycare

NAIA staff were also invited to visit the children at Good Nutured Family Childcare in St. Alban's, NL on June 6th. As a part of World Ocean's Week celebrations, they talked about marine life and the importance of keeping our oceans clean. They enjoyed coloring, a book read of "Charley, A Day in the Bay," and a game of "Pass the Fish" followed by a light snack and refreshment.



## At the Beach with MAMKA and DFO

Lastly, NAIA joined MAMKA and Fisheries and Oceans Canada staff in Conne River, NL, on June 11th. Grade 3-6 students walked to the beach and saw displays of eel pots and nets, green crab traps, and remote operated vehicles (ROV). Randy Green of MAMKA provided the youth with information on how eels are caught and how their ancestors speared them for food. They had live shrimp on display which the students had fun releasing back into the wild. They also had an opportunity to use the ROV in the water using the hand-held camera/controllers. DFO staff was on hand and provided goody bags and World Oceans Day cake to all the youth and NAIA provided a few random prize

draws. Grand day – thanks for having us!

World Oceans Day is a wonderful reminder of how important our oceans are to our planet and with the help of everyone, we can promote a better future for the next generations by considering the health and stability of our oceans and climate. Let's continue our efforts all year long. Plan a shoreline cleanup within your community. Practice the three R's: Reduce, Re-use and Recycle. There are countless opportunities to help the planet we've been given, so do your part and help keep our oceans clean! Special thanks to everyone for joining us this summer!






## NAIA High School Career Fair

NAIA organized a high school career fair at Bay d'Espoir Academy in St. Alban's, NL on June 5th, which saw almost 100 students from Bay d'Espoir Academy and St. Anne's School in Conne River. They visited the exhibitors which included NAIA, Fisheries, Forestry and Agriculture, Fisheries and Oceans Canada – Conservation and Protection, College of the North Atlantic – Grand Falls Windsor Campus, MAMKA/Miawpukek Mi'kamawey Mawi'omi, Cooke Aquaculture, Mowi Canada East, and Transport Canada – Office of the Boating

Safety. They provided the students with interactive and intriguing displays that taught them about the various careers in fisheries and aquaculture. The students seemed to especially enjoy the Atlantic salmon dissection that was performed by staff of Fisheries, Forestry and Agriculture – Aquatic Animal Health. Special thanks to Cooke Aquaculture for providing the salmon. Also, thank you to the staff of Bay d'Espoir Academy for helping organize the event and to the staff and students of both schools for attending.





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# Welcome New Members!



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HoldFastNL Seaweed Farm Inc. is a company formed in 2022 exclusively for developing seaweed farming in Newfoundland. Currently, there are four members of HoldFastNL, all of which provide a vast range of expertise. The company founder and team leader, Michael Teasdale (M. Sc.), is a senior marine scientist with more than 20 years of experience with a focus on marine ecology and carbon footprinting. HoldFastNL are currently in their second season of an experimental seaweed farm in St. Mary's Bay, NL and recently published an article on seaweed farming in Newfoundland as it relates to blue carbon.



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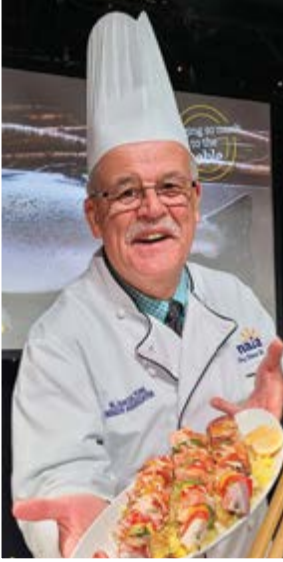
**M**AMKA South engages in many ocean/marine projects such as eel and eelgrass research, green crab monitoring, shoreline erosion and restoration, habitat and ecosystem mapping and conservation in the Bay d'Espoir area. MAMKA is building equipment capacity and has trained technicians, 4 boats and research equipment such as ROV's, drones, a side scan sonar, eDNA collector, CTD's, etc.

MAMKA has operated as MAMKA South / Miawpukek First Nation (MFN) in Conne River and MAMKA West / Qalipu First Nation (QFN) in Corner Brook since 2005, operating under the auspices of AAROM (Aboriginal Aquatic Resources and Ocean Management) through DFO.

MAMKA's mandate is to gather Indigenous Knowledge (IK) and scientific data to support MFN and QFN in the management, protection and development of aquatic and marine resources towards a sustainable blue economy.

MAMKA seeks to carry out its objectives by engaging in various marine projects related to data collection and analyses in the aquatic environment – habitats, ecosystems and species in Bay d'Espoir as well as environmental stewardship of our traditional waters and lands. MAMKA also engages with elders and youth in its activities and engages in stakeholder processes to ensure Indigenous voices are heard in ocean governance.





## COOKING WITH **Chef Steve Watson**

### *Newfoundland Salmon, Steelhead Trout, Mussels and Oysters Herb Tomato Bisque*

#### **Ingredients:**

- 1½ lb. NL Farmed Salmon, diced
- 1½ lb. NL Farmed Steelhead Trout, diced
- 1 dozen NL Farmed Oysters
- 3 lb. Farmed NL Mussels
- 2 cups Central Dairies skimmed milk
- 2 x 28oz can chopped tomatoes, undrained
- 3 Onions, coarsely chopped
- 8 Cloves of garlic, minced

- 3 tbsp. Flour
- ½ lb. butter
- 2 Bunches fresh chopped dill weed
- Chicken liquid soup base, to taste

#### **Method:**

Heat butter, onion & garlic together for 4 minutes on medium. Blend in flour & cook for 1 minute. Gradually whisk in the milk until smooth. Cook for 4 minutes or until mixture comes to a simmer and thickens slightly. Add undrained

tomatoes & bring to a simmer, cover for 10 minutes.

Steam the Mussels and remove the meat. Shuck the Oysters. Slowly fold in the diced steelhead trout, Atlantic salmon, cooked mussel meat, and shucked oysters. Add the dill. Season with liquid chicken soup base and bring to a simmer being careful not to break or overcook the seafood. Gently ladle the Bisque into individual bowls.




#### **Seafood Tips:**

Some sauces can be at risk of curdling when being prepared. Sometimes the enzymes in fresh oysters can cause a reaction, which can cause the proteins to coagulate. Not allowing the soup to boil, keeping it at a steady low simmer while cooking and stirring often, will help prevent curdling.






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## Missing in Action: A Congruent Food Policy is Much Needed in Canada

*Cyr Couturier is a marine biologist, aquaculture scientist and chair of the MSc Sustainable Aquaculture program at the Fisheries and Marine Institute of Memorial University. He has 35+ years of experience in applied research and development, training and education in aquaculture and fisheries (seaweed, finfish, shellfish). He is a Board and Executive member of several farming & development associations, including CAIA, CFA, CAHRC, HORIZON TNL, RDÉE Canada, AAC and is a past president of NAIA.. He has worked in aquaculture and fisheries development in over 18 countries. The views expressed herein are his own. Contact: [cyr@mi.mun.ca](mailto:cyr@mi.mun.ca) or follow on Twitter [@aquacanada](https://twitter.com/aquacanada)*

While the world continues to improve its food supply via directed programs at food security, production, and support, Canada’s policies on food production have changed so much in the past few decades, we now import increasingly more foods, instead of local production. Take for example the case of fisheries and

aquaculture in this country. While most developing and underdeveloped states have clear actions at developing food supplies for their citizens, and in support of these activities, Canada has fallen behind in this regard, and now is ranked in the bottom half of the world’s seafood producers (24th) vs. top 10 in the 1980s. Why is this? I will try to

explain in the next few paragraphs, but first a wonderful update on increased seafood supply just released by the Food and Agriculture Organization (FAO) of the United Nations, just a month ago, to put it in context.

### Aquaculture leads on seafood production globally

The recent statistics and outlook for global aquaculture and fisheries in 2022 have been released by the FAO in their report entitled “*The State of World Fisheries and Aquaculture 2024. Blue Transformation in action*”. It can be retrieved at the following <https://doi.org/10.4060/cd0683en> or else viewed easily in digital format on the FAO site at [www.fao.org](http://www.fao.org).

There are many key findings in this document, related to seafood production, and some are highlighted here:

- Aquaculture surpassed capture fisheries in 2022 as the main source of aquatic animal protein globally (51% vs 49%). Aquatic animal protein from capture fisheries has **NOT increased in 4 decades**. See Figure 1.
- Food uses from marine protein

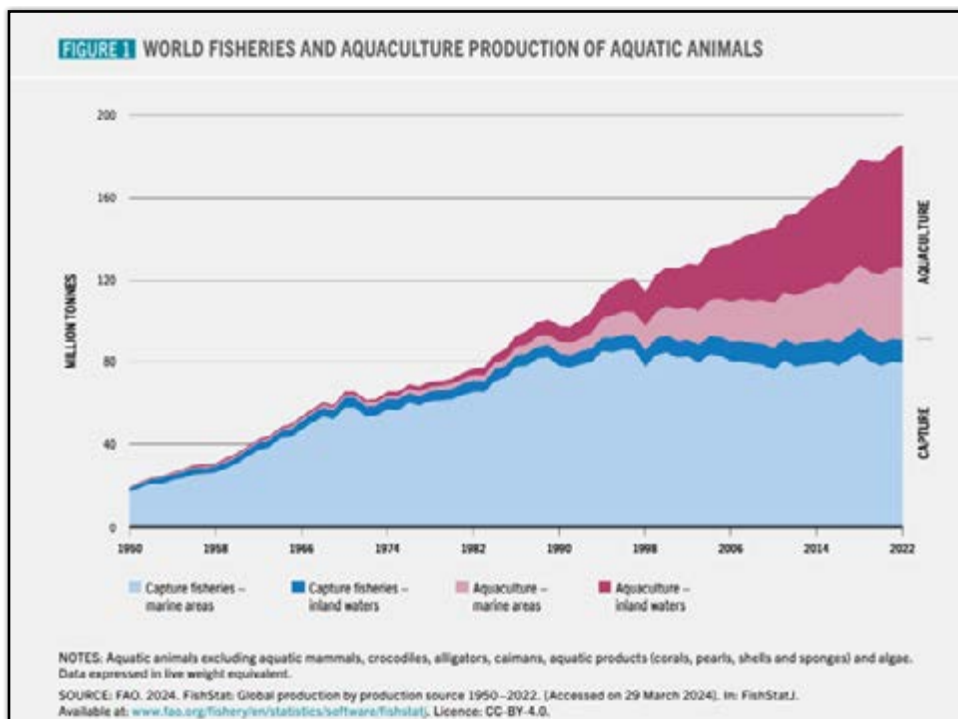


Figure 1: Global aquatic animal production from fisheries and aquaculture in 2022. Source: FAO 2024, State of World Fisheries and Aquaculture.



continue to increase owing to aquaculture, and reduction fisheries seem to have stabilized globally over the past 2 decades. On average every one of the 8 billion humans on the planet now consume about 21.5 kg seafood per person per year, and the majority of this is from aquaculture. The reliance on this animal protein (or food) is increasing rapidly, still. See Figure 2.

- Seafood is consumed in excess of 1 trillion meals per year, and is one of the main animal proteins for over 3 billion of the Earth's inhabitants. It provides employment for well over 300 million Ag and Agrifoods producers and the value chain, it is a source of sustainable food, and regarded as a nutritious and healthy food source by the World Health Organization and virtually every government on the globe.
- Nearly 200 million tonnes of aquatic animal protein as food is produced globally from fisheries and aquaculture, and nearly 230 million tonnes when algae are included, also contributing to the food and agrifoods value chains. See Figure 3.
- Most of the growth is obviously from aquaculture, in terms of aquatic animal foods, and it continues to grow for 95% of the world's populations. However, in North America, including Canada, which only produces about 3% of the global seafood supply, it has been trending downwards since the 1980s, well before commercial aquaculture even came to being on this continent. In fact, the decline in seafood production would not have been as steep since the 1980s had it not been for aquaculture developments in Canada from

1980 to 2020 (25% decline in fisheries vs. 15% decline in seafood when aquaculture is included.) See Figure 4.

Overall, aquaculture has been growing in almost every part of the world, as reported by the FAO, except North America and in Canada in particular, where it has flatlined now over the past 20 years. In fact, Canada now is ranked 24th globally in terms of seafood, 27th or above in terms of farmed seafood, whereas it was consistently in the top 10 seafood producers in the 1980s. I suspect the main reason is that our policies on food production are rather incongruent from one another.

### Meanwhile in Canada lack of congruent food policies?

Most knowledgeable people will understand that seafood production is primarily for food everywhere on the planet. The rapid increase in global aquaculture is trying to meet that global food demand that increases

annually by about 200 million human beings, and about 43 billion seafood meal portions per year. It all has to come from farmed sources as the Earth seemingly has reached the capacity in its oceans to produce more food for all Earthly denizens, including other creatures that live there.

Aquatic farming or aquaculture has been doing a good job of late in many of the world's poorest and food insecure areas. In Canada however the food industry, which includes fisheries and agriculture (incl. aquaculture) is worth about \$144 billion in GDP. Yet, food insecurity continues to rise in our country, in every province and territory, while we continue to close local capture fisheries for wild and farmed seafoods?

One can argue that Canada does not have a strategic or focused policy on food production, unlike many (most?) other parts of the world, that do promote and support food production

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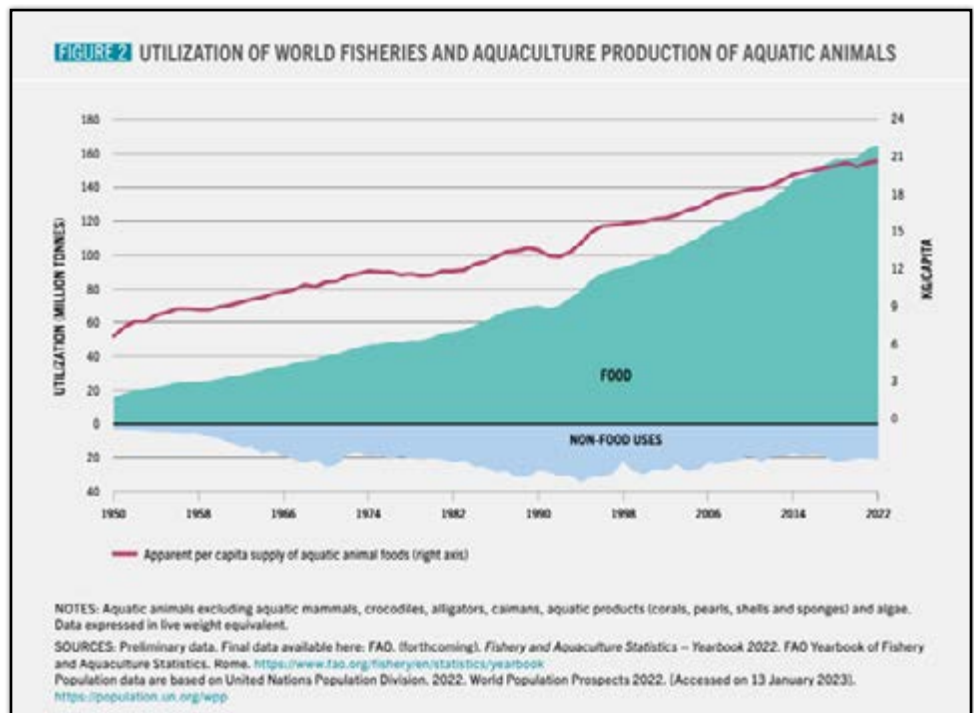


Figure 2: Global aquatic animal utilization from fisheries and aquaculture in 2022. Source: FAO 2024, State of World Fisheries and Aquaculture.



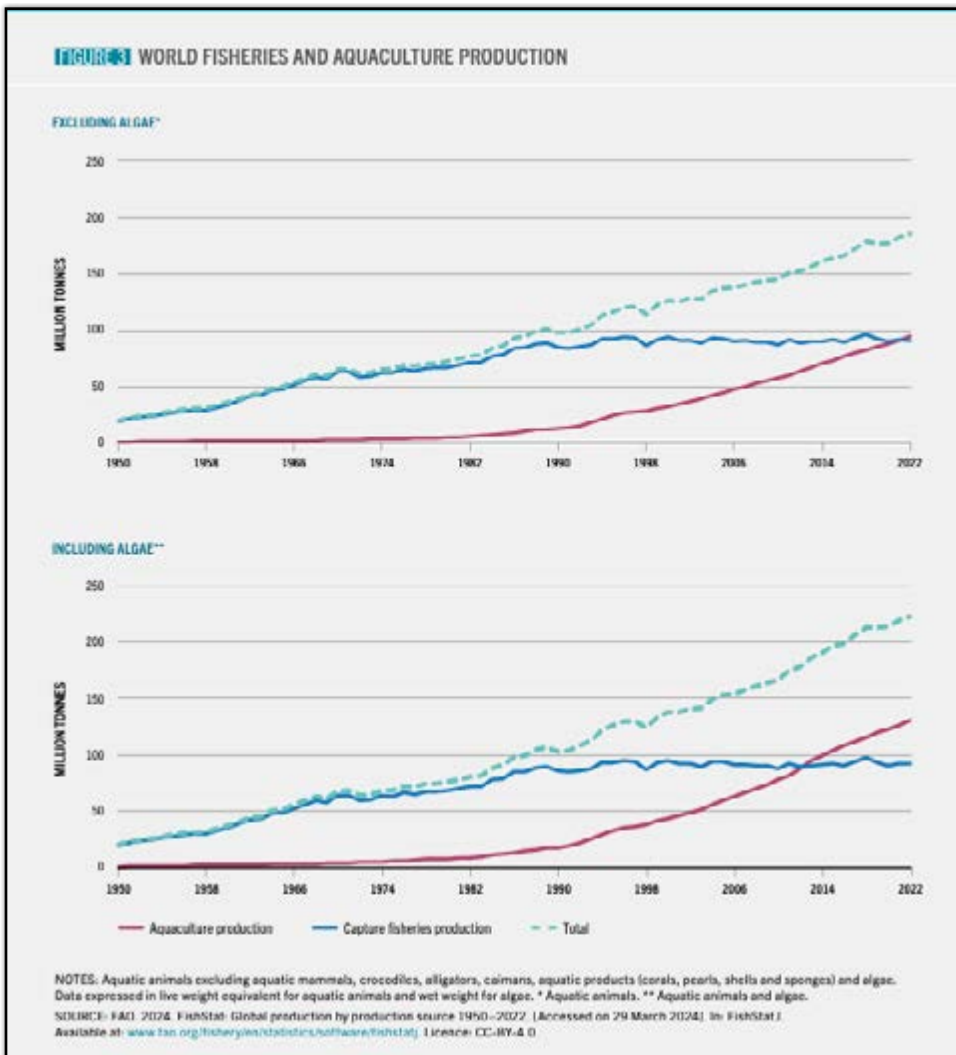


Figure 3: Global fisheries and aquaculture production without and with algae in 2022. Source: FAO 2024, State of World Fisheries and Aquaculture.

from fisheries and agriculture, to decrease poverty, access to food, and boost population health. By closing farms and fisheries, Canadians need to import more foods from far away places, sometimes at much greater environmental cost and with poorer oversight. Decreasing seafood production also impoverishes federal and provincial coffers, with less tax revenues, it increases the cost to consumers, it increases the cost of social programs, and actually exacerbates food insecurity and access. Do you know we are now importing \$1.5 billion in salmon from far away places while cutting production down by about \$1 billion by closing farms and fisheries? Makes no sense at all, from a food policy perspective.

Our current food policy is to close fisheries and seafood farms, using the environment as a scapegoat, in spite of the scientific and technical evidence to the contrary. These food production activities are indeed sustainable or even growing. The United Nations and

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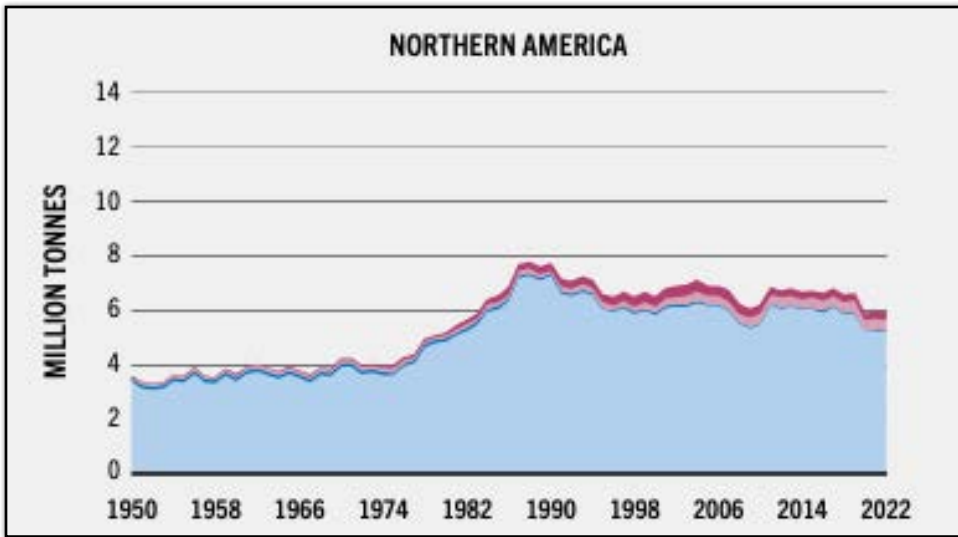


Figure 4: North America seafood production from 1950 to 2022. Source: FAO 2024, State of World Fisheries and Aquaculture.

the world demand it, but Canada does not care. On this, yes our regulations and food policies are actually out of sync, even non-existent. No wonder we are falling behind the rest of the world in seafood production. Until we have actual policies and regulatory frameworks to encourage seafood production, we will continue to import more and more, and to fall behind, until there is nothing left in our oceans, I suspect. The recent BC salmon farming decision is a perfect example of the incongruent nature of our Ag and

Agrifoods policies and the federal regulatory framework that prevents the seafood sector from reaching its potential and ambitions.

To finish, Canada is now telling First Nations from its colonial governance seat, that they can not produce sustainable seafood within their own territories in contravention of UNDRIP, their own federal legislation, and principles of environmental and social stewardship ? Quo vadis Canada? Where are you going Canada?

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# A. Job Halfyard – In Memoriam



**J**ob Halfyard passed peacefully away on May 21, 2024, at the age of 93. Leaving to mourn, the love of his life, his wife of 70 years, Audrey (Burton) Halfyard, 7 children, 9 grand children and 4 great grandchildren.

Job and Audrey met when he was teaching in Bonne Bay, Port Anson, NL. Although a devoted family man, he was involved in many business ventures over the years including fishing, shellfish aquaculture, mining, hospitality, and tourism.

Job Halfyard was a proud pioneer in the aquaculture industry in the province. He served on the NAIA Board as a Director, then President for many years. He was awarded the Aquaculturist of the Year Award in 2005, and in 2021 the Lifetime Achievement Award.

When Job was presented with the Lifetime achievement award in 2021, he was asked: as a pioneer in the aquaculture industry, what is the greatest achievement or experience you have been a part of in the aquaculture industry? He responded, “to see the growth of the industry over the years, from initial research and testing of sites, to development of the industry to commercial viability. But we are not there yet, as we need to secure more mussel seed and markets”.

Regarding being recognized with this lifetime achievement award Job proudly stated “It is what the award represents, that I have contributed to a successful NL mussel industry that is sustainable and with secure jobs in rural areas.”

Job will be missed by all of the members and stakeholders of the aquaculture industry in Newfoundland and Labrador and will be remembered as above all, a proud and passionate supporter of the sector as he recognized its importance in rural economic development. For those of us who were lucky enough to have worked closely with Job over the years, we feel grateful for our time together, which will have a lasting impact on all our lives.





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